Superficial mycoses

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Dermatophytosis

Dermatophytosis is an infection of keratinized tissues (claws, hair and skin) usually caused by Microsporum canis, in some cases also by M. gypseum and Trichophyton mentagrophytes. The incidence and prevalence depends largely on the climatic condition and natural reservoir. In cats, M. canis is present all year round, in contrast M. gypsum and T. mentagrophytes are seldom reported in cats and are observed more frequently in the summer and fall months. The transmission is possible thru direct contact or indirectly (combs, brushes, transport cages, etc). The environment (hair shafts with fungal spores remain infectious for more then 18 months) and asymptomatic carries can act as reservoir for infection. Infections are more common in young, old and immunosuppressed animals. Additionally cats in catteries, shelters and pet shops can have a higher incidence of the disease.

Classical clinical lesions are annular alopecia, scaling, broken hair usually on the head, pinnae and paws. Other reported uncommon clinical presentations are miliary dermatitis, chin acne, kerion, onychomycosis, dermatophytic pseudomycetoma, otitis externa, eosinophilic plaques and recently described 'urticaria pigmentosa-like dermatitis. The diagnosis can be made by different techniques. Wood's lamp examination is positive in less then 50% of infected cats with M. canis. Direct examination of the hairs or even better skin scrapings offers a very good diagnostic tool. A fungal culture is required for confirmation of the diagnosis and for the determination of the fungal species.

The principles of a successful treatment are:

- Treat the affected cat (systemically and topically)
- Examination (fungal culture) and treatment of contact animals
- Decreasing environmental contamination (enilconazole, 1:10 diluted bleach)
- Stop treatmend only after a negative fungal culture

Systemic medications for dermatophytosis include itraconazole (10 mg/kg daily or as pulse therapy). Other drugs reported to be efficacious are fluconazole, terbinafin and griseofulvin. The last one used less frequently due to the side effects such as panleukopenia, anorexia, vomiting… Especially, griseofulvin should be discouraged in FIV positive cats. Topical preparations are enilconazole, miconazole and lime sulfur and should be used twice weekly.

Clipping the cats can hasten the cure process, as it removes immediately a huge amount of spores, it helps to improve the efficacy of the topical treatment and also it leads to a decreased environmental contamination. There is still missing evidence of the efficacy of vaccines and lufenuron in the treatment of canine and feline dermatophytosis.

Malassezia dermatitis

Malassezia spp. are commensal yeasts that colonize the superficial epidermis of the skin and the ears. In cats the lipid non-dependend M. pachydermaitis and the lipid-non-dependent M. *sympodialis*, M. *globosa, M. nana, M. slooffiae, M. restricta* and M. *furfur* are usually found. *Malassezia* dermatitis is usually present due to an underlying disease, such as allergic dermatitis (of any origin), paraneoplastic syndrome (exfoliative dermatitis associated with thymoma, paraneoplastic alopecia) and FIV/FELV infection. Primary *Malassezia* dermatitis is rarely found in the cat. Hairless breeds or breeds with naturally reduced amounts of hairs such as the Sphynx

and the Rex cat are reported to carry a higher number of these fungi when compared to European short-haired breeds.
Predilection sites include the ear canals, interdigital spaces, ventral tail base, groin and areas with skin folds. The following clinical presentations associated with possible pruritus are usually seen in cats:

- Otitis externa with black and waxy otitis externa
- Chin acne
- Facial dermatitis
- Paronychia
- Generalized erythematous scaly to waxy dermatitis

Differential diagnoses include allergic dermatitis, superficial staphylococcal folliculitis, demodicosis, dermatophytosis, feline acne and epitheliotropic lymphoma.
The diagnosis is made by cytological examination using a microscopic slide, swab or a cellophane tape (for less accessible areas such as interdigitial or dry lesions) and Diff-Quick stain. The fungal culture to diagnose *Malassezia* dermatitis is of no diagnostic value, as cats can be healthy carriers of these fungi.
Treatment options depend on the lesion type and area of distribution. Small focal areas can be treated with antifungal cream, wipes or ear drops (if the owner can prevent the cat to lick of the preparation min 5-10 minutes from the skin). Topical treatment in generalized disease included application of shampoos (containing chlorhexidin and miconazole) or enilconazole rinses. In the dog it was shown that the fasted clinical resolution is achieved with a combination of the topical and systemic treatment. This is often difficult to apply in the feline dermatology, as cats tend to hate topical products. Therefore, the best option is the utilization of a systemic antifungal such as itraconazole.

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